

## WHAT IS CLAIMED IS:

1. An apparatus comprising:
  - a device chip including substrate and at least one circuit element fabricated on the substrate;
  - a cap bonded to said device chip, said device chip and said cap defining a hermetically sealed cavity wherein the cavity is sealed with bonding agent and caulking agent.
2. The apparatus recited in claim 1 wherein the bonding agent comprises gold.
3. The apparatus recited in claim 1 wherein the caulking agent is selected from a group consisting of amorphous fluorocarbon polymer, polyimide materials, and benzocyclobutene (BCB) based materials.
4. The apparatus recited in claim 1 wherein the circuit element comprises a resonator.
5. The apparatus recited in claim 1 wherein the caulking agent caulks at least a portion of the bonding agent.
6. The apparatus recited in claim 1 wherein the caulking agent caulks at least a portion of the cap.
7. The apparatus recited in claim 1 wherein said cap includes gasket having an inner surface and an outer surface and wherein the caulking agent caulks the inner surface of the gasket.
8. The apparatus recited in claim 1 wherein said cap includes gasket having an inner surface and an outer surface and wherein the caulking agent caulks the outer surface of the gasket.
9. The apparatus recited in claim 1 comprising multiple layers of the caulking agent.

10. The apparatus recited in claim 9 wherein the multiple layers of the caulking agent comprises layers having different caulking material relative to other layers of the caulking agent.

11. The apparatus recited in claim 8 wherein the multiple layers of the caulking agent comprises layers having the same caulking material relative to other layers of the caulking agent.

12. A method of manufacturing an apparatus, the method comprising:

fabricating a device chip including a substrate and at least one circuit element on the substrate;

fabricating a cap;

bonding the cap on the device chip such that a sealed cavity is formed; and

reflowing caulking agent further sealing the cavity.

13. The method recited in claim 12 wherein the step of fabricating the device chip includes a step of depositing caulking agent on the device chip.

14. The method recited in claim 12 wherein the step of fabricating the cap includes a step of depositing caulking agent on the cap.

15. The method recited in claim 12 wherein the cap is bonded to the device chip using bonding agent comprising gold.

16. The method recited in claim 12 wherein the caulking agent is selected from a group consisting of amorphous fluorocarbon polymer, polyimide materials, and benzocyclobutene (BCB) based materials.

17. The method recited in claim 12 wherein the circuit element comprises a resonator.

18. The method recited in claim 12 wherein the caulking agent caulks at least a portion of the cap.

19. The method recited in claim 12 wherein the cap includes a gasket that is caulked by the caulking agent.